

PATENT

App. Ser. No.: 10/757,781
Atty. Dkt. No. ROC920030348US1
PS Ref. No.: IBMK30348

IN THE CLAIMS:

The claims are as follows:

1. (Original) A built in self test (BIST) method for testing a device, comprising:
maintaining, in memory, a current set of test parameters corresponding to a
current test sequence being run or previously run; and
for each of a plurality of subsequent test sequences to be run after the current
test sequence:
obtaining dynamic test parameters indicating a change in test parameters
corresponding to the subsequent test sequence relative to the current set of test
parameters,
updating the current set of test parameters based on the dynamic test
parameters,
configuring the device with updated current set of test parameters, and
performing the subsequent test sequence.
2. (Original) The method of claim 1, wherein obtaining the dynamic test
parameters comprises retrieving the dynamic test parameters from a table listing
dynamic test parameters for the subsequent test sequences.
3. (Original) The method of claim 1, wherein configuring the device with the
updated current set of test parameters comprises loading the updated current set of test
parameters to the device.
4. (Original) The method of claim 3, wherein loading the updated current set of
test parameters to the device comprises loading shift register latches of the device.
5. (Original) The method of claim 1, wherein maintaining, in memory, the current
set of test parameters comprises maintaining the current set of test parameters in
memory external to the device.

PATENT

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6. (Original) The method of claim 1, wherein maintaining, in memory, the current set of test parameters comprises maintaining the current set of test parameters in an array of memory elements on the device.
7. (Original) The method of claim 1, further comprising:
obtaining one or more response signatures after performing each subsequent test; and
using obtained response signatures as reference signatures for testing subsequent devices.
8. (Original) The method of claim 1, further comprising:
obtaining one or more response signatures after performing each subsequent test; and
comparing the one or more response signatures to reference signatures to detect the occurrence of device faults, wherein the reference signatures comprise at least one signature generated by simulating running a test sequence on a device.
9. (Original) The method of claim 8, wherein the reference signatures further comprise at least one signature generated by running a test sequence on a device.
10. (Original) A method for generating test data for use in sequentially running a set of test sequences, comprising:
obtaining test parameters corresponding to each test sequence; and
generating a table comprising, for each of a plurality of the test sequences, a set of dynamic test parameters indicating a change in test parameters relative to a previous test sequence.
11. (Original) The method of claim 10, further comprising optimizing the order in which the dynamic test parameters for the plurality of the test sequences are listed in the table in an effort to minimize the volume of the table.
12. (Original) A computer-readable medium containing a program for testing a device which, when executed, performs operations comprising:

PATENT

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maintaining a current set of test parameters corresponding to a current test sequence being run or previously run; and
for each of a plurality of subsequent test sequences to be run after the current test sequence:
obtaining dynamic test parameters indicating a change in test parameters corresponding to the subsequent test sequence relative to the current set of test parameters,
updating the current set of test parameters based on the dynamic test parameters,
configuring the device with updated current set of test parameters, and
performing the subsequent test sequence.

13. (Original) The computer-readable medium of claim 12, wherein obtaining the dynamic test parameters comprises retrieving the dynamic test parameters from a table listing dynamic test parameters for the subsequent test sequences.

14. (Original) The computer-readable medium of claim 12, wherein the program is executed by the device.

15. (Original) A system for performing a plurality of test sequences on a device, comprising:

a set of current test parameters maintained in memory;
a table containing, for each of a plurality of test sequences, dynamic test parameters indicating a change in test parameters relative to a previous test sequence;
and

an executable component configured to perform the test sequences by obtaining, from the table, the dynamic test parameters corresponding to a test sequence to be run, modifying the set of current test parameters based on the obtained dynamic test parameters, configuring the device with the modified current set of test parameters, and performing the test sequence.

16. (Original) The system of claim 15, wherein:

PATENT

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the system further comprises a set of reference signatures; and
the executable component is further configured to compare signatures obtained
in response to running test sequences to reference signatures.

17. (Original) The system of claim 15, wherein the set of reference signatures are
contained in the table.

18. (Original) The system of claim 15, wherein the executable component is
configured to load the modified current set of test parameters on the device.

19. (Original) The system of claim 15, wherein at least one of the test sequences
is a logical built in self test (LBIST) test sequence.

20. (Original) The method of claim 15, wherein the table is contained on the
device.